Claims

1. A carbon fiber strand obtained by impregnating a carbon fiber with a sizing agent composition containing a sizing agent comprising at least two kinds of epoxy resins, wherein the sizing agent composition is such that, when it is mixed with a given curing agent at proportions of 100 parts by mass (the sizing agent composition) and 30 parts by mass (the curing agent) to make a composition for estimation, the composition for estimation is heat-treated at 130 °C for 2 hours, and the resulting cured material for estimation is measured for dynamic viscoelasticity to obtain its tan δ of α relaxation peak and its tan δ of β relaxation peak, their product $\alpha_{tan\,\delta}$ $\beta_{tan\,\delta}$ is 0.07 to 0.2.

2. A carbon fiber strand according to Claim 1, wherein the sizing agent composition has a Viscosity of 100 to 10,000 poises at 30°C.

3. A carbon fiber strand according to Claim 1, wherein the sizing agent contained in the sizing agent composition contains a PO/EO block copolymer in an amount of less than 30% by mass relative to the epoxy resins.

4. A carbon fiber strand according to Claim 1, wherein the content of the sizing agent composition is 0.3 to 5.0% by mass.

5. A carbon fiber strand according to Claim 1, which is constituted by 1,000 to 50,000 single fibers.

6. A carbon fiber strand according to Claim 1, wherein the carbon fibers constituting the carbon fiber strand show a surface oxygen concentration ratio O/C of 0.05 to 0.3 when measured by X-ray photoelectron spectroscopy.